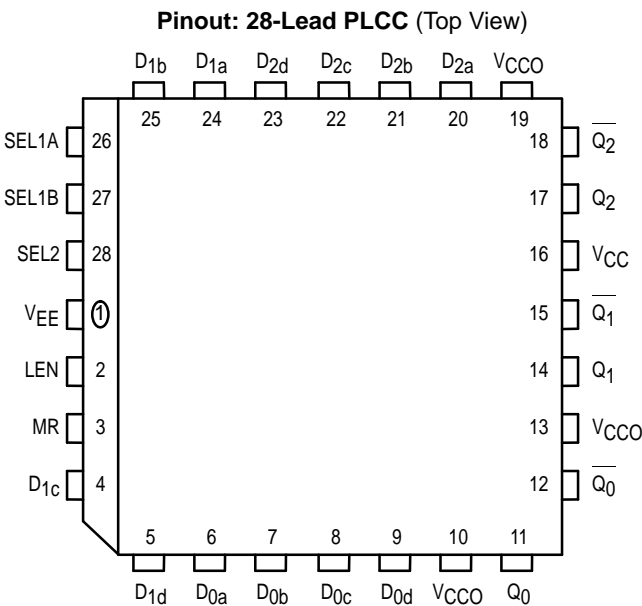


3-Bit 4:1 Mux-Latch

The MC10E/100E256 contains three 4:1 multiplexers followed by transparent latches with differential outputs. Separate Select controls are provided for the leading 2:1 mux pairs (see logic symbol).

When the Latch Enable (LEN) is LOW, the latch is transparent, and output data is controlled by the multiplexer select controls. A logic HIGH on LEN latches the outputs. The Master Reset (MR) overrides all other controls to set the Q outputs LOW.

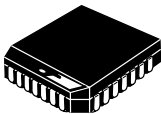
- 950ps Max. D to Output
- 850ps Max. LEN to Output
- Split Select
- Differential Outputs
- Extended 100E V_{EE} Range of $-4.2V$ to $-5.46V$
- 75k Ω Input Pulldown Resistors



* All V_{CC} and V_{CCO} pins are tied together on the die.

MC10E256
MC100E256

3-BIT 4:1
MUX-LATCH



FN SUFFIX
PLASTIC PACKAGE
CASE 776-02

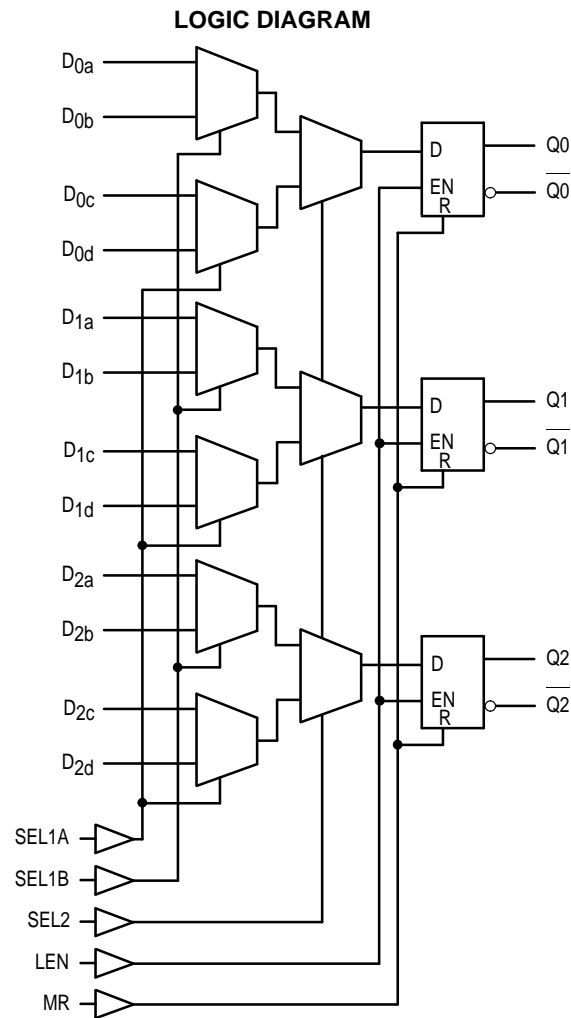
FUNCTION TABLE

Pin	State	Operation
SEL2	H	Output c/d Data
SEL1A	H	Input d Data
SEL1B	H	Input b Data

PIN NAMES

Pin	Function
$D_{0x} - D_{2x}$	Data Inputs
SEL1A, SEL1B	First-stage Select Inputs
SEL2	Second-stage Select input
LEN	Latch Enable
MR	Master Reset
$Q_0, \overline{Q_0} - Q_2, \overline{Q_2}$	Data Outputs





DC CHARACTERISTICS ($V_{EE} = V_{EE}(\text{min})$ to $V_{EE}(\text{max})$; $V_{CC} = V_{CCO} = \text{GND}$)

Symbol	Characteristic	0°C			25°C			85°C			Unit	Condition
		min	typ	max	min	typ	max	min	typ	max		
I _{IH}	Input HIGH Current			150			150			150	μA	
I _{EE}	Power Supply Current										mA	
	10E		69	83		69	83		69	83		
	100E		69	83		69	83		79	96		

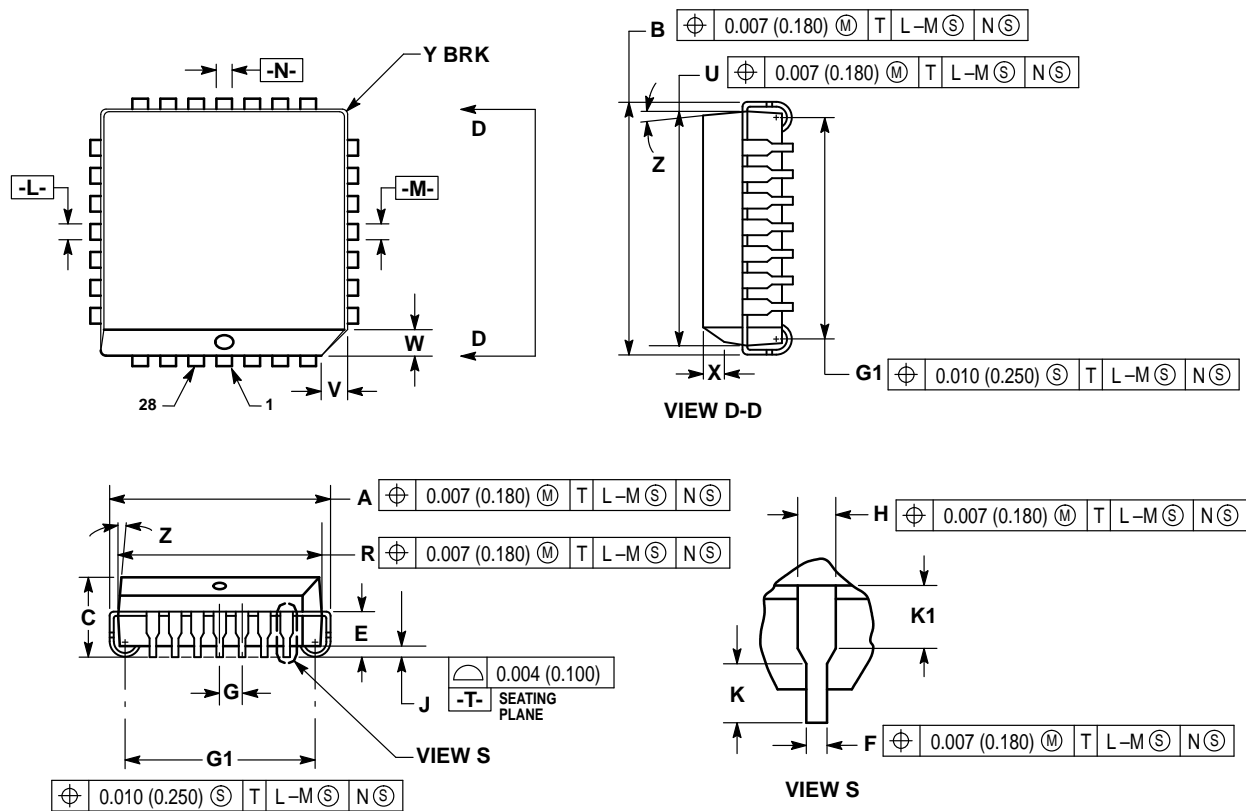
AC CHARACTERISTICS ($V_{EE} = V_{EE(min)}$ to $V_{EE(max)}$; $V_{CC} = V_{CCO} = GND$)

Symbol	Characteristic	0°C			25°C			85°C			Unit	Condition
		min	typ	max	min	typ	max	min	typ	max		
t _{PLH} t _{PHL}	Propagation Delay to Output D SEL1 SEL2 LEN MR	400 550 450 350 350	600 775 650 500 600	900 1050 900 800 825	400 550 450 350 350	600 775 650 500 600	900 1050 900 800 825	400 550 450 350 350	600 775 650 500 600	900 1050 900 800 825	ps	
t _s	Setup Time D SEL1 SEL2	400 600 500	275 300 250		400 600 500	275 300 250		400 600 500	275 300 250		ps	
t _h	Hold Time D SEL1 SEL2	300 100 200	– 275 – 300 – 250		300 100 200	– 275 – 300 – 250		300 100 200	– 275 – 300 – 250		ps	
t _{RR}	Reset Recovery Time	700	600		700	600		700	600		ps	
t _{PW}	Minimum Pulse Width MR	400			400			400			ps	
t _{SKEW}	Within-Device Skew		50			50			50		ps	1
t _r t _f	Rise/Fall Times 20 - 80%	275	475	700	275	475	700	275	475	700	ps	

1. Within-device skew is defined as identical transitions on similar paths through a device.


OUTLINE DIMENSIONS

FN SUFFIX
PLASTIC PLCC PACKAGE
CASE 776-02
ISSUE D



- NOTES:
- DATUMS -L-, -M-, AND -N- DETERMINED WHERE TOP OF LEAD SHOULDER EXITS PLASTIC BODY AT MOLD PARTING LINE.
 - DIM G1, TRUE POSITION TO BE MEASURED AT DATUM -T-, SEATING PLANE.
 - DIM R AND U DO NOT INCLUDE MOLD FLASH. ALLOWABLE MOLD FLASH IS 0.010 (0.250) PER SIDE.
 - DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 - CONTROLLING DIMENSION: INCH.
 - THE PACKAGE TOP MAY BE SMALLER THAN THE PACKAGE BOTTOM BY UP TO 0.012 (0.300). DIMENSIONS R AND U ARE DETERMINED AT THE OUTERMOST EXTREMES OF THE PLASTIC BODY EXCLUSIVE OF MOLD FLASH, TIE BAR BURRS, GATE BURRS AND INTERLEAD FLASH, BUT INCLUDING ANY MISMATCH BETWEEN THE TOP AND BOTTOM OF THE PLASTIC BODY.
 - DIMENSION H DOES NOT INCLUDE DAMBAR PROTRUSION OR INTRUSION. THE DAMBAR PROTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE GREATER THAN 0.037 (0.940). THE DAMBAR INTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE SMALLER THAN 0.025 (0.635).

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.485	0.495	12.32	12.57
B	0.485	0.495	12.32	12.57
C	0.165	0.180	4.20	4.57
E	0.090	0.110	2.29	2.79
F	0.013	0.019	0.33	0.48
G	0.050	BSC	1.27	BSC
H	0.026	0.032	0.66	0.81
J	0.020	—	0.51	—
K	0.025	—	0.64	—
R	0.450	0.456	11.43	11.58
U	0.450	0.456	11.43	11.58
V	0.042	0.048	1.07	1.21
W	0.042	0.048	1.07	1.21
X	0.042	0.056	1.07	1.42
Y	—	0.020	—	0.50
Z	2°	10°	2°	10°
G1	0.410	0.430	10.42	10.92
K1	0.040	—	1.02	—

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